REMARKS/ARGUMENTS

This is a reply to the outstanding Office Action dated May 16, 2008.

Status of Claims

Claims 1, 7, 10, 12, and 14-21 are currently pending in this application.

Claims 2-6, 8, 9, 11 and 13 have been canceled.

Claims 1, 7, 12, 14, and 16 are presently amended.

New claims 18-21 are added.

Claim Amendments

Claim 1 is amended by incorporating claim 3 and based on support at page 3, lines 8-11, and elsewhere in the present application.

Claim 7 is amended by incorporating claim 9 and adding language supported at page 3, lines 7-8 of the present application. Claims 1 and 7 also are editorially amended with respect to the clause headings.

Claim 12 is editorially amended.

Claims 14 and 16 are amended as based on support in Fig. 1 and the corresponding teachings of the specification at page 4, line 26 to page 5, line 20, and elsewhere in the present application.

New claims 18 and 19 are supported, e.g., at page 2, lines 21-22.

New claim 20 is supported by Fig. 1, original claims 3 and 5; page 1, lines 6-7; page 2, line 20, 24-25; page 3, lines 2-4, 7-8; page 4, line 26 to page 5, line 24; and page 6, line 6, and elsewhere in the present application.

New claim 21 is supported by Fig. 1 and page 5, lines 19- 20, and elsewhere in the present application.

No new matter has been introduced.

Response to 35 U.S.C. § 103(a) Rejections of Claims 1-3, 6, 8-12 and 14-17 Based on Oathout and Palm et al.

In the most recent Office Action, Claims 1-3, 6, 8-12, and 14-17 have been rejected under 35 U.S.C. § 103(a) as obvious over Oathout (USP 5,459,912) in view of Palm et al. (U.S. Pat. No. 5,776,353). This rejection is respectfully traversed.

To spare the record repetitions of the applicant's previous arguments, which are incorporated herein by reference, the following comments are provided which are believed to highlight key differences between the present claims and the Examiner's proposed combination of Oathout and Palm et al., and thus facilitate the Examiner's further reconsideration of these claims.

The Examiner acknowledges that Oathout differs from the claimed invention because Oathout does not disclose that the wipe should have a sodium ion content of less than 45 ppm and that it should be subjected to a process of washing with acetic acid, rinsing with water and drying. The Examiner refers to Palm et al. as teaching a method of removing contaminants from a fibrous material comprising steps of washing with acetic acid, rinsing and drying. In paragraph 10 of the most recent Office Action, the Examiner further states that Palm et al. discloses fiberglass and that fiberglass is by definition a fibrous material and since Palm et al. does not disclose woven fabrics the person of ordinary skill in this art would recognize that the fiberglass structures of Palm et al. refer to nonwoven structures.

In reply, the applicant points out that Palm et al. specifies that the functional filtration component and the matrix component ingredients of the media are intimately blended *in particle form* before sintering the materials to form an agglomerate in which the particles are assembled into a coherent mass (col. 4, line 60 to col. 5, line 5; col. 11, lines 27-35, 51-67; col. 12, lines 15-21; col. 13, lines 22-26). Palm et al. fails to refer to "woven fabrics" simply because the fiberglass or other matrix component is blended *as particles* with particles of the functional filtration component, and not because it was a nonwoven as assumed in the Office Action. This only follows to reason as Palm et al. could not provide *fiber particle* form media products (abstract, last line) if a fiberglass matrix component were combined as a blanket of insulation material with the functional filtration component particles. From this proper technical perspective, for example, it can be understood that Example 7 bridging columns 18-19 of Palm et

al. is teaching the use of glass fibers of about 5 μm in diameter and 300-700 μm in length as matrix component particles derived from "insulation fiber glass (Owens-Corning Fiberglass, Toledo, Ohio)." This same example indicates that the product retains "microstructural features" of the fiberglass. This characterization only makes technical sense with respect to loose fiberglass *fiber* structures, and would be nonsensical if a diatomite-treated fiberglass insulation *blanket* is suggested as the product obtained.[1] In any event, Example 7 of Palm et al. does not teach acid washing of this particular product. It is understood that the rejection is premised on the broader teaching of "Acid Washing" separately in the Palm et al. reference, such as at column 13, lines 44-64, where acid washing is described as a possible post-treatment for the sintered media products. Even there, any acid washing would be performed on the *loose inorganic agglomerate/ particle-form media product* of Palm et al.

Palm et al. is not solving metal contaminant problems with respect to nonwoven fabric workpieces, and especially not those containing the particular synthetic polymer and cellulosic fibers such as recited in the present claims. Palm et al. did not specify *sodium* in particular is considered a problematic contaminant for any media product, nor that the acid wash of Palm et al. is applicable to reducing the levels of sodium on the particulate media product of Palm et al. (see col. 13, lines 57-59). Iron and aluminum are the only contaminants identified by Palm et al. as being reduced by the acid washing disclosed in the reference (col. 13, lines 57-59). Palm et al. does not teach recognition of sodium ions in particular as being relatively large in size and posing particular problems for certain environments such as microelectronics. In fact, Palm et al. teaches the opposite and specifically invites and encourages the inclusion of sodium (Na) containing components, such as soda-lime glasses, in the media products of that reference that can be acid washed (see col. 7, line 28; col. 8, lines 34-38, 55-57). Thus, Palm et al. actually teach away from the present invention by expressly teaching and allowing for the use of sodium containing materials in the media products that can be acid washed.

[1] As explained, e.g., in USP 5,340,868 (col. 1, lines 12-29, "... Fibrous glass insulation products generally comprise matted glass fibers bonded together by a cured thermoset polymeric material. Molten streams of glass are drawn into fibers of random lengths and blown into a forming chamber where they are randomly deposited as a mat onto a traveling conveyor. The fibers, while in transit in the forming chamber and while still hot from the drawing operation, are sprayed with an aqueous binder. ...".

Also, Oathout is concerned with solving linting problems, not metal (e.g. sodium) contaminant problems. Palm et al. is not relevant to that focus of Oathout's interest. The Office Action (paragraph 14) refers to the background of the invention section of the present application as stating that it is desirable for the wipe to have a low sodium ion particle count. However, even if that is accurate, for sake of argument only, it only highlights the failure of others to solve a long felt need in the electronics industry, which only now has been successfully solved by the present inventor.

Therefore, a person of ordinary skill in the art at the time of the present invention has no motivation, suggestion or technical rationale to consider modifying Oathout's process to somehow incorporate the loose inorganic particle media acid washing method of Palm et al.

In view of at least the above reasons, the applicant respectfully submits that the proposed combination of Oathout and Palm et al. does not render the present claims *prima facie* obvious.

In view of at least the above, reconsideration and withdrawal of the rejection is respectfully requested.

Response to 35 U.S.C. § 103(a) Rejection of Claims 1-3, 6, 8-12 and 14-17 Based on Oathout, Bahten and Palm et al.

Claims 1-3, 6, 8-12 and 14-17 have been rejected under 35 U.S.C. § 103(a) as obvious over Oathout in view of Bahten (USP 6,182,323), and further in view of Palm et al. This rejection is respectfully traversed.

Bahten, like Palm et al., has nothing to do with nonwoven fabric materials. Bahten's teachings are directed to foam members (Table 1A, col. 4. Table 1B, col. 5) made of polyvinyl alcohol bearing compounds (col. 2, lines 22-36), particularly polyvinyl acetal porous elastic material (col. 3, lines 46-47). Bahten states the invention is the "Present **Foam** Product" numerous times throughout the reference (emphasis added). That is how that patentee characterized his own invention. The fact that these foam products may be used for clean room wipes or brushes does not make them relevant to the nonwoven fabrics of Oathout, who, again, is concerned about linting not sodium impurities.

The Office Action (paragraph 15) states that it is well known to form wipes from fibrous materials, not just foams. The Office Action cites no factual evidence that these materials have art recognized equivalence in the prior art.[2] The fact remains that Bahten only teaches that the process described therein is applicable to reducing impurities from foam products alone. Nonwoven fabrics are not foams and vice versa. Palm et al. differs from the present invention for the reasons explained above and in prior responses. A person making fabrics according to Oathout et al. would not have looked to inorganic particle media and foam arts for possible modifications to the process described therein to make nonwoven fabrics.

Further, there is no prediction of success for such a modification because acid washing loose hard inorganic particles or self-supporting foam structures use different functions than washing nonwoven fabrics given the different structures of kind that are being treated. The effects on one are not predictive of the effects on another.

Also, independent claims 1, 7 and 20 recite providing a first layer comprising staple length synthetic polymeric fibers, wherein said polymeric fibers are selected from the group consisting of polyamides, polyesters, polyolefins, and combinations thereof, and a second layer of cellulosic fibers. *Polyvinyl acetal porous elastic* (foam) material per Bahten and the loose *inorganic agglomerate* media of Palm et al. do not have or meet the particular polymeric fiber recitations of the present claims.

As another difference, independent claims 1, 7, and 20 each includes an acid washing step recitation of including pulling said acid wash through said nonwoven fabric by vacuum. The Office Action (paragraph 5) acknowledges that Oathout, Bahten and Palm et al. do not teach employing a vacuum during the acid washing process.

In view of at least the above reasons, the applicant respectfully submits that the proposed combination of Oathout, Bahten and Palm et al. does not render the present claims *prima facie* obvious.

In view of at least the above, reconsideration and withdrawal of the rejection is respectfully requested.

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[2] "In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents." M.P.E.P. §2144.06.

Response to 35 U.S.C. § 103(a) Rejection of Claim 7 Based on Oathout, Palm et al., Bahten and Kwok et al.

Claim 7 has been rejected under 35 U.S.C. § 103(a) as obvious over Oathout in view of Palm et al., or in view of Bahten and Palm et al. as applied to claims 1-3, 6, 8-12, 14-17, and further in view of Kwok et al. (USP 5,093,190).

The Office Action states that Oathout, Bahten and Palm et al. do not teach employing a vacuum during the washing process, but that Kwok et al. teaches that employing a vacuum to dewater a nonwoven web for use as a clean room wipe reduces the amount of contaminants in the web. This rejection is respectfully traversed.

In reply, the applicant points out that Kwok et al. discloses using a vacuum dewatering extractor 19, as a substitute for conventional squeeze roll dewatering, to suck out suspended lint particles that may have become dislodged from the fabric during previous water jetting on drum washer screen 16 (col. 3, lines 1-8; Fig. 2; Example 3; col. 1, lines 5-47). Oathout and Kwok et al. are both concerned with solving a similar problem - linting, and not sodium ion content, in wipe fabrics. Conventional dewatering techniques used on nonwoven fabrics during production such as described in Oathout (squeeze rolls 18) and Kwok et al. (water extractor 19) are not the same or comparable to pulling an acetic acid wash *through* a nonwoven fabric using vacuum with respect to reducing sodium ion content (page 3, lines 7-11). As explained in the present application, the acetic acid wash reacts with the entangled nonwoven fabric so as to remove a majority of the sodium ions, which, following rinsing and dewatering results in a wipe that has a greatly reduced sodium ion particle content as claimed (page 5, lines 21-24).

This vacuum delinting operation taught by Kwok et al. has nothing to do with *acid washing* of nonwovens comprising applying an acetic acid wash to a hydroentangled nonwoven fabric and pulling the acid wash through the nonwoven fabric by vacuum, to provide an acid-washed nonwoven fabric, such as recited in present independent claims 1, 7 and 20. The proposed combination of Kwok et al., with Oathout, Bahten et al. and Palm et al. does not meet all the recitations of the present claims.

In view of at least the above reasons, the applicant respectfully submits that the proposed combination of Oathout, Bahten, Palm et al. and Kwok et al. does not render the present claims *prima facie* obvious.

In view of at least the above, reconsideration and withdrawal of the rejection is respectfully requested.

It is believed that this application is in condition for allowance, and notice of such is respectfully requested.

If the Examiner believes that a teleconference would be useful is expediting the prosecution of this application, the official is kindly invited to contact Applicant's undersigned representative of record.

Respectfully submitted,

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